

SUPPLEMENTARY CONTRIBUTIONS TO THE REVISION OF THE BOMBYLIIDAE (DIPTERA) OF SOUTHERN AFRICA: THE GENUS SYSTROPUS

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DESCRIPTIONS OF NEW SPECIES

Subfamily **Systropinae**

Genus SYSTROPUS Wied.

Systropus Wiedemann 1820, p. 18. Wiedemann 1828, p. 359. Hesse 1938, p. 991.

Since my revision of the South African representatives of this genus in 1938 the South African Museum has acquired some new species from the Cape Province, Southern Rhodesia and Portuguese East Africa. Descriptions of these are given below.

Systropus bicoloripennis n. sp.

This peculiar smallish species which differs from all the other known South African forms in certain respects is characterized as follows:

Body mainly black; frons, sides of face and genae yellowish in ♂, dark or black in ♀; buccal rim black in both sexes; antennae entirely black in ♀, but segment 1 ivory yellowish and silvery-haired above in ♂; propleural callosity or a spot on it ivory yellowish in both sexes; base of sternite 2 and sometimes to a smaller and lesser extent apex of sternite 2 and base and apices of 3 and even 4 very pale yellowish; a large transverse humeral spot passing into a narrow notopleural streak on each side, broadened on false tegulae in front of wing-bases, continued in a curve above wings to include postalar calli and narrowly across hind margin of thorax, pteropleuron or greater part of it, down middle of pleurae (posterior part of sternopleuron or middle epimeral part), more or less anterior half of hypopleural (or posterior episternal) part, the broad anterior

border (much broadened above) of metasternal part, postnotal process and area around it, a large basal spot on each side of tergite 1, narrowly continuous with its fellow along anterior margin, broadish sides (narrowed in middle) and to an obscure extent narrowish dorsal hind margins of tergites 2-5, hind margins of rest of tergites in ♂ and of 6 and 7 in ♀, anterior faces of front coxae, sides in basal halves and hinder part of middle coxae, a ring-like fascia round posterior coxae (broader on front face), femora, tibiae and basal segments of tarsi, excepting only the dark callus-area on front femora and dark apical parts of hind femora and tibiae, yellowish red, reddish or ferruginous red; scutellar callosities also ferruginous reddish or brownish. *Vestiture* with the hairs on antennae black, excepting silvery white ones on segment 1 above in ♂; those on face also black; pruinescence on head in front silvery; scaling on thorax, pleurae and especially hypopleural and metasternal parts and on sides of tergite 1 glittering iridescent and silvery, definitely scale-like, the individual scales broad, leaf-shaped or ovate, not fine and hair-like as in all the other known South African forms, excepting *namaquensis* Hesse; fine scaling on abdomen dark or black in a broad dorsal streak, in a broadish streak on each side of venter and on club, the dorsal band being broadened at about middle of tergites 2-5, suggesting a node-like or spindle-shaped structure; scales on pale coloured sides of tergites 2-5 gleaming sericeous yellowish, becoming silvery white in apical patches, especially on 2-4, and those across hind margins of these segments also silvery; fine hair-like scaling on legs greyish or whitish on coxae, mainly dark on femora and tibiae, but yellowish on inner faces of hind femora and to a much lesser extent on the others and outer faces of front and middle tibiae. *Head* with the eyes above in ♂ separated by only a narrow line, about or a little more than 3 times length of ocellar tubercle, in ♀ by a narrow space about as wide as front ocellus and a little shorter than ocellar tubercle; antennal segment 1 in ♂ longer than in ♀ and also more distinctly longer than segments 1 and 2 combined; segment 2 markedly short, markedly broadened apically, more so in ♂; segment 3 flattened, narrowed and pointed apically, apparently slightly longer in ♀, a little more than 2, to nearly 3, times as long as 2 in ♂ and about 2 to 3 times as long as 2 in ♀; proboscis about 2.5-3 mm. *Thorax*, excluding scutellum, subquadrate, only a little broader than long, both it and scutellum above fairly coarsely rugulosely punctured; scutellum transverse, markedly broader, or much broader, than long; hypopleural and metasternal parts rugosely punctured, the latter transversely grooved behind; postnotum on each side at base of tergite 1 produced into a distinct or prominent, somewhat triangular, dentate process or spine which in most other species is blunt or only rounded. *Wings* with a very characteristic pattern of infuscation, the basal part up to level of end of axillary lobe and the anterior costal half to discoidal cell and cubital fork brown to dark brown in both sexes, but evidently slightly darker anteriorly, with the spot-like infuscations at base of first submarginal cell, on apical cross veins of second basal cell, on middle cross vein and at base of upper cubital branch darker, con-

spicuous; entire discoidal cell, almost entire first posterior cell (excepting its extreme base only), second submarginal cell and more or less apical half of third posterior cell uninfuscated and clear, sharply demarcated and contrasting with especially the anterior infuscated half; only two submarginal cells present; alula entirely wanting; vein between submarginal cells less sinuous than in most other species; first posterior cell markedly narrowed and acuminate apically, often closed and subtending on hind margin or even shortly stalked; middle cross vein much beyond middle of discoidal cell; knobs of halteres brownish to dark brown above. *Abdomen* rather thick and stout, its petiole composed of 3 segments; last sternite of ♀ elongate, shining, spout-like, sharply pointed and slightly produced apically where it is also laterally compressed, and apex slightly bent downwards; last tergite of ♂ produced apically below on each side into an inwardly directed and upwardly curving process, the apices of which are slightly dilated and rounded; beaked apical joints of fused basal parts (taking up the position of a last sternite) with their sharp spine-like or hook-like apices curved inwards and slightly downwards; exposed and projecting part of medial aedeagal process stoutish, rod-like, rounded and slightly dilated apically; accessory processes on each side sharply pointed (similar to those depicted for *macilentus* Wied., cf. Hesse 1938, p. 1004, text-fig. 310); fused apical part of lateral rami (cf. text-fig. 310, R.) tongue-shaped, curved down towards aedeagal process and rounded apically; callus-area on terminal plates in last tergite roughly bean-shaped. *Legs* with the hind femora unarmed and rather abruptly clavate apically.

From 17 ♂♂ and 9 ♀♀ (types in the South African Museum).

Length of body: about 9.25–13 mm.

Length of wing: about 5–8 mm.

Localities. Western Cape: Leipoldtville–Elands Bay (Mus. Exp., Oct. 1947) (types, 14 ♂ and 6 ♀ paratypes); Ysterfontein (S.A.M., Sept. 1960) (1 ♀ paratype). Namaqualand: Bowesdorp (S.A. Mus. Exp., Sept. 1941) (2 ♂ and 1 ♀ paratypes).

The smallish size, striking bicolorous wings, much narrowed or even stalked first posterior cell, flattened iridescent and silvery scales on thorax and metasternum, transverse scutellum, the dentate postnotal processes and very short second antennal segments as well as the distribution of the red on body, distinguish this species from all other known South African forms. It is apparently restricted to the west coastal belt of the Cape. In general appearance and method of flight it simulates species of the Conopid genera *Conops* and *Physocephala*.

Systropus namaquensis Hesse

Systropus namaquensis Hesse 1938, p. 1006.

Since the publication of the specific description of a damaged ♂ specimen of this species which I compared with *macilentus* Wied. at the time, the Museum has acquired numerous other ♂♂ and also quite a number of ♀ specimens. To

include the as yet undescribed ♀ the original description may therefore be supplemented as follows:

Body mainly black; frons, face and genal parts mainly dark, with silvery pruinescence, except on middle part of face; buccal rim ivory yellowish; antennae entirely black and black-haired; following parts yellowish red to red: a humeral spot on each side continued as a narrow notopleural line to the broad false tegulae and to include the postalar calli, propleural callosity and sclerite above it, middle sutural (or posterior sternopleural and anterior hypopleural) part, lower part of posterior episternal (or hypopleural) part, metapleural part to a certain extent, sides of tergites 2-5, greater part of hind femora (excepting their black apical parts), at least or more than basal halves of hind tibiae, at least outer faces of front and middle tibiae, and sometimes to a much lesser and variable extent outer faces of anterior and middle femora; tergite 1 sometimes obscurely dark reddish at its basal corners like the exposed postnotal parts below; scutellar callosities flattened, ivory yellowish. *Vestiture* peculiar in that, as in *bicoloripennis* n. sp., the fine silvery whitish hair-like scales or hairs of most other species are in this case replaced by distinct, narrow, flattened scales (or scale-like hairs) on thorax, especially posteriorly, on scutellum, hypopleural and metasternal parts and on sides of tergite 1. *Head* with the eyes above contiguous in ♂ for a distance a little more than 3 to about 4 times length of ocellar tubercle, narrowly separated for a short distance in ♀, narrowest part being subequal in length to that of tubercle and about as wide as front ocellus; frons in ♀ thus much longer; antennal segment 1 in ♂ longer than in ♀; segment 2 relatively short, equally long in both sexes; segment 3 flattened, more sharply pointed apically, slightly shorter in ♂, about 3 or a little more ($3\frac{1}{2}$ or nearly 4) times length of 2 in ♂ and from $4\frac{1}{2}$ to nearly 5 times length of 2 in ♀, subequal or more usually shorter than segment 1 in ♂, but longer than 1 in ♀. *Wings* with only 2 submarginal cells, smoky greyish to dusky in ♂, darker in costal part and marginal cell, distinctly darker and very much more infuscated in ♀, smoky brown, more so basally and in anterior half; first posterior cell only slightly narrowed apically; knobs of halteres very dark brown to almost black above. *Abdomen* rather thick and long; petiole composed of 4 segments; last sternite in ♀ elongate, scoop-like; last tergite in ♂ like that of *macilentus* Wied., with inwardly and upwardly curved, apically thickened apical prongs, which are however distinctly more U-curved; exposed part of hypopygium in ♂ with the beaked apical joints similar to those of *macilentus*, but their inwardly tumid beaks apparently blunter, the aedeagal process more broadened and bifid apically and the accessory processes similar, but the other on each side dorsally which I labelled as 'ramus' in *macilentus* (cf. text fig. 310, p. 1004, 1938) is fused apically with its companion and is produced into a flattened pointed process.

From 19 ♂♂ (including the original holotype) and 12 ♀♀ in the South African Museum.

Length of body: about 13–18.5 mm.

Length of wing: about 8–10 mm.

Localities. Namaqualand: Giftsberg (van Rhynsdorp) (Sept. 1911) (original holotype ♂); Wallekraal (Mus. Exp., Oct. 1950) (1 ♂); Graafwater (Mus. Exp., Oct. 1947) (♀ allotype, 4 ♀ paratypes and 4 ♂♂). Koup Karoo: Lammerskraal in Prince Albert Dist. (Mus. Exp., Sept. 1947) (2 ♀ paratypes and 8 ♂♂); Koup Siding–Laingsburg (Mus. Exp., Oct. 1952) (1 ♀ paratype). Moordenaars Karoo: Lammerfontein (Mus. Exp., Oct. 1952) (1 ♀ paratype and 1 ♂). North Western Karoo: Augusfontein near Calvinia (Mus. Exp., Sept. 1947) (3 ♀ paratypes and 4 ♂♂).

Systropus sheppardi n. sp.

A large species which superficially resembles the wasp *Belonogaster junceus* (*Vespidae*) and which is characterized as follows:

Body mainly black; frons, face, genal parts, interior of buccal cavity, first antennal segments, palps, and base of proboscis yellowish or pale yellowish reddish; following parts ferruginous reddish: a broad humeral quadrate patch on each side anteriorly on thorax, continued as broad sides of thorax, including the false tegulae, to postalar calli, sides basally of scutellum, metanotal part, area around wing-bases, posterior part of pteropleuron, middle episternal and epimeral (or sternopleural) parts, metapleural part, anterior margin and lower lappet of posterior episternal (or hypopleural) part, the extreme upper margin of metasternal part, the area in upper half dividing the metasternal parts, the narrowish area surrounding the base of postnotal process on each side, the coxae and legs; a variable spot on propleural callosity, and scutellar callosities yellow; sides of tergites 2–4, sides of base of 5 and entire club of abdomen black; exposed parts of hypopygial structures also ferruginous. *Vestiture* with the hairs on antennae and on face black; those on declivous anterior part of thorax in humeral region and a characteristic brush of dense hairs in groove on thorax above wing-base on each side also black; frons, face and genae with silvery pruinescence; fine hairs or hair-like scaling on thorax above composed of greyish and dark ones, mostly in broadish streaks, those posteriorly and on scutellum longer, more silvery; hair-like scaling on pleurae relatively sparse, denser posteriorly and on metasternal part, silvery white, but relatively shorter than in most species; fine scaling on abdomen dark or black on dark parts, yellowish on pale parts, but those on last two or three segments of club greyish white or silvery; scaling on legs mainly dark, even on middle and hind femora below, pale basally below on front ones; fine hairs or hair-like scaling on callosities on front femora (in certain lights), on outer faces of front and middle tibiae silvery whitish, the dark ones on front or inner faces gleaming golden in certain lights, especially in ♀. *Head* with the eyes in both sexes in contact above for a little more than 3 times length of ocellar tubercle; frons more depressed centrally in ♀; antennal segment 1

slender, elongate, very slightly longer in ♂ than in ♀, about or almost as long as last four tarsal segments together, a little more than 3, or nearly 4 times length of segment 2 (segment 3 missing in specimens); palps quite or nearly half length of antennal segment 1; proboscis long, slender, about 6.52–6.72 mm. *Thorax* dull above, leathery in appearance, more finely punctured in hinder half, slightly more coarsely on scutellum; metasternal part transversely grooved. *Wings* dusky, tinged smoky brownish, very much darker in ♀, darker in costal part in both sexes, but more so in ♀; veins dark brown; two submarginal cells present; first posterior cell narrowed apically; alula and outer squamal lobe wanting; knobs of halteres very dark or black above. *Abdomen* long, with a petiole composed of three segments; last sternite in ♀ elongate, produced apically into two sharp, spine-like processes; last tergite in ♂ only deeply emarginate apically, not armed with a spine or process on each side; exposed hypopygium of ♂ with the fused basal parts (ventral in position) broad, scoop-like, truncate apically, armed apically on its inner side on each side with an inwardly directed, curved, somewhat flattened, spine-like apical segment (clasper) which is also curved downwards apically; exposed accessory structures or aedeagal processes in form of a medial, dorsally directed, broadish, hook-like structure, flanked on each side by a broad, flattened, apically rounded, lobe-like structure. *Legs* without spines on hind femora below, the latter not clavate apically; hind legs relatively long and with rather well-developed spicules on hind tibiae.

From a ♂ and 2 ♀♀ (♂ holotype and ♀ allotype in the South African Museum and 1 ♀ paratype in Transvaal Museum).

Length of body: about 25–25.5 mm.

Length of wing: about 14–14.5 mm.

Localities. Southern Rhodesia: Vumba in Umtali Dist. (P. A. Sheppard, March 1931) (♂ holotype); Umtali Dist. (P. A. Sheppard, April 1931) (♀ allotype and ♀ paratype).

Distinguished from the other large *Belonogaster*-like Rhodesian species *marshalli* Bezz. by its different colour-pattern in which the base of the thorax, scutellum, propleural callosities and base of tergite 1 are not reddish, and the wings are not yellowish, but dusky or smoky brownish. From *snowi* Adams, a slightly smaller species from Rhodesia with a similar colour-pattern, it may, apart from the larger size, be at once distinguished by the much smaller propleural yellow spot, the non-pallid outer faces of front and middle tibiae, less red on lower part of hypopleuron, presence of black hairs on face, anterior humeral part and densely in groove above wing-bases, and the much darker wings.

Systropus gracilis n. sp.

A slender-bodied species superficially resembling *leptogaster* Lw., but agreeing and differing from the latter as follows:

Body mainly black; frons, face, genal parts, humeral angle and a fascia from it down on each side to include propleural callosity (but not transversely on thorax above as in *leptogaster*), front coxae, apical halves of front femora, part of underside of middle femora and outer faces of front and middle tibiae and their basal tarsal segments, and scutellar callosities ivory yellowish; hind femora below even more extensively pallid or yellowish and white-scaled than in *leptogaster*; thorax above on false tegulae without any oblique yellow fascia or spot; pleurae entirely black, the middle sutural part between sterno- and hypopleural parts dull velvety black, not reddish; tergites 2-5, especially 4 and 5, laterally also ochreous yellowish, but even bases of 6 laterally also yellowish; apical halves of front and middle tarsi black; apices of hind tibiae and tarsi also black or dark. *Vestiture* with the fine tomentum on frons, face and genae silvery; fine hairs on antennae black; fine and sparse hairs on disc of thorax appearing greyish yellowish to brownish in certain lights; hairs or hair-like scales on pleurae, metasternum, scutellum, and sides of tergite 1 silvery white, those on metasternum longer, but sparser than in *leptogaster*; fine hair-like scaling on disc of tergite 1 blackish brown; that on dorsum of rest of tergites and also on sides ventrally below black like most of those on abdominal club; that on sides of tergites 2-5, but less so on sides of 2, yellowish; fine hair-fringes across hind margins of same tergites more silvery white, more conspicuous than yellowish or dark ones of *leptogaster*; fine scaling on upper sides of femora and tibiae dark, contrasting with pale ones on lower surfaces and with the silvery white fine hairs and scales on outer sides of front and middle tibiae and basal segments of their tarsi. *Head* with the eyes above in ♂ in contact for a very much shorter distance, only a very little more than 3 times length of ocellar tubercle, not actually about 5 times as in *leptogaster*; antennal segment 3 longer, elongate, a little longer than segment 1, more or less spindle-shaped and bluntly pointed and about or nearly 3 times length of segment 2 in ♂ (proportions of segments 7 : 2·6 : 8) whereas in ♂ of *leptogaster* segment 3 is about or only a little more than twice length of segment 2; proboscis about 3·6 mm. long. *Thorax* relatively much shorter (excluding scutellum), distinctly much shorter than width of head, its upper surface shining, more coarsely rugosely punctured (dull and more finely rugulose in *leptogaster*); scutellum shorter, more rounded and not subemarginate posteriorly; metasternal part distinctly much narrower, more finely transversely rugose, without the normal transverse groove-like sculpture of most other species, in profile sloping more sharply forwards, the hind coxae appearing shifted far forwards to below level of neck (in *leptogaster* to about below middle of thorax). *Wings* tinted only a little less smoky greyish than in ♂ of *leptogaster*, the costal cell also darker and similarly yellowish brownish, veins brownish; spot-like infuscations on middle cross vein and base of discoidal cell, apart from one at common base of second and third veins, slightly less conspicuous than in *leptogaster*; a delicate, shiny, hyaline, lobe-like outer squama (or part of alula) present which in *leptogaster* is entirely wanting as in other known South African species;

three submarginal cells present, but base of normal second submarginal cell distinctly very much shorter; middle cross vein apparently nearer middle of discoidal cell; first posterior cell less narrowed apically; knobs of halteres paler, more yellowish brown above. *Abdomen* more slender, but also with a three-segmented petiole, though segment 4 is relatively less broadened (side view) and may almost be considered as a fourth segment of the petiole. *Legs* as in *leptogaster*; hind femora not clavate apically, only gradually thickened. *Hypopygium* of ♂ with the callus-area on terminal plates in last tergite very much broader and more oval than in *leptogaster*; aedeagal process flattened, ending into two slightly diverging flattened lobes, not cowl-like or hood-like as in latter.

From a ♂ in the South African Museum.

Length of body: about 11.5 mm.

Length of wing: about 6.5 mm.

Locality. Portuguese East Africa: Nyaka (R. Lawrence, Feb. 1924).

Superficially this species also resembles the species *ichneumoniformis* which I described from the Congo (1958, p. 64), and which also has similar hyaline, lobe-like, outer squamae at base of wings, dusky wings, shiny thorax, elongated third antennal segments, etc. From the latter, *gracilis* differs, however, in its ivory yellowish face, genal parts, ivory yellowish fascia from humeral angle to coxae, ivory yellowish front coxae, more yellowish legs, shorter, more convex and more coarsely sculptured thorax, much longer line of contact between eyes above, etc.

KEY TO THE SOUTHERN AFRICAN SPECIES OF SYSTROPUS

A revised and descriptive key to all the known southern African species.

- 1(a) Wings with only two submarginal cells. 2
- (b) Wings with three submarginal cells. 11
- 2(a) Antennal segment 2 distinctly much shorter, much less than half length of segment 3, or shorter than, subequal in length to, or only a little longer than anterior tarsal segment 3; club of abdomen without or with scarcely any, or with only poorly developed, silvery hairs in apical part, these hairs if pale usually not silvery white; pteropleuron without or with only very short silvery hairs or hair-like scales posteriorly, and sides of tergite 1 and metasternal part with sparser and usually shorter silvery elements; outer faces of front and middle tibiae usually without conspicuous, resplendent, silvery hairs or pubescence, and if yellowish, with feebler and less conspicuous silvery hairs, and if resplendently silvery, antennal segment 2 short; hind femora more abruptly and markedly clavate apically. 3
- (b) Antennal segment 2 distinctly much longer, nearly or almost half length of 3, or much or very much longer than anterior tarsal segment 3; club of abdomen usually with conspicuous or dense silvery hairs or with conspicuous silvery-gleaming pubescence in apical part; pteropleuron with more conspicuous and distinctly longer (or with a tuft of distinctly longer) silvery hairs posteriorly, and sides of tergite 1 and metasternal part usually also with longer and much denser silvery elements; outer faces of front and middle tibiae, even if not yellowish, usually with conspicuous, resplendent, silvery hairs; hind femora not or scarcely abruptly clavate apically. 6
- 3(a) Wings markedly short, anterior half and basal part up to end of axillary lobe darkly infuscated, the cross veins more darkly so, but rest or lower apical half clear; first pos-

terior cell very much narrowed apically, acute, closed or sessile on hind margin; antennae relatively short, segment 2 markedly broadened apically and 1 whitened and white-haired above in ♂; postnotum on each side at base of tergite 1 produced spine-like or dentately prominent; abdomen relatively thick or stoutish, with 3-segmented petiole, the apical parts of which have a large quadrate patch of fine silvery hair-like scaling on each side; base of sternite 2 conspicuously bone yellowish; mesopleural, posterior episternal and epimeral (metasternal) parts and sides of tergite 1 with small broadish iridescent or pearly scales; hind femora without spines; smallish form, not more than 13 mm. ♂ ♀ *bicoloripennis* n. sp. (W. Cape, Namaqualand)

- (b) Wings relatively longer, not so bicolorously infuscated, either tinged uniformly throughout or with only costal part darker and with the spots on cross veins less conspicuous; first posterior cell either not or only slightly narrowed apically, usually broadly open apically; antennae distinctly much longer, segment 2 not or less broadened apically, and 1 not whitened above, dark-haired in both sexes; postnotal angle on each side at base of tergite 1 less sharply prominent, bluntly angular or rounded; abdomen distinctly more slender, with 4-segmented petiole, the apical parts of which with more yellowish or pallid fine scales or hairs or with darker hairs; base of sternite 2, if pale, more normally yellowish; pleural, metasternal parts and sides of tergite 1 with silvery hair-like scales or with longer, less broadish silvery ones; hind femora usually with some spines below at about middle; larger forms, usually more than 13 mm. 4
- 4(a) Wings distinctly more darkly infuscated, either in both sexes, or in ♀♀ more darkly than in ♂♂; propleural tubercle, front coxae and outer surfaces of front and middle tibiae castaneous brownish, reddish brown or yellowish brown, both pairs without even faint silvery hairs; apices of hind femora and tibiae conspicuously dark or blackened, greater part of hind legs being pale reddish or yellowish brown; hyposternal and metasternal parts or at least hind part of metasternum black 5
- (b) Wings less dark, more cinereous or smoky greyish, darker only at base and costal part, especially in ♀; propleural tubercle, front coxae, a subapical spot on front femora below and outer faces of front and middle tibiae ivory yellowish or whitish, both pairs with faint, but distinct, silvery whitish hairs on ivory faces; legs dark or black, hind ones entirely so; pteropleuron, middle epimeral, metapleural, posterior episternal and epimeral (or metasternal) parts entirely pale reddish or yellowish brownish. ♂ ♀ *barnardi* Hesse (1938, p. 1006) (S.W. Cape)
- 5(a) Wings in both sexes more uniformly reddish brownish, only very slightly darker in ♀; halteres slightly paler, the knobs more yellowish brownish to castaneous brown above; entire or greater part of antennae, face, sides of thorax broadly, base of thorax, apical spot on or hind margin of scutellum, pteropleuron, middle epimeral, metapleural, posterior episternal parts and front part of posterior epimeral (or metasternal) part, base of tergite 1, tergites 2-5 above and medially below, and legs including basal segments of tarsi pale reddish brown, yellowish brown to ochreous brownish; silvery vestiture on thorax, pleurae, metasternum and sides of tergite 1 in form of finer hair-like scales or hairs. ♂ ♀ *macilentus* Wied. (1938, p. 1001) (W. Cape, Karoo)
- (b) Wings in ♀ very dark smoky brownish, darker in anterior half and basally, less infuscated in ♂, more cinereous or smoky greyish, darker only in costal part and base; halteres darker, more dark castaneous to blackish brown, the knobs dark to almost black above; antennae, face or middle part of face, upper half or even greater part of genae, greater part of thorax above, entire scutellum, greater part or entire pteropleuron, hypopleuron or posterior episternal part (excepting only its reddish lower part), entire posterior epimeral part, entire tergite 1, dorsum and sides below of tergites 2-5 and abdominal club black; coxae, front and middle femora, more or less apical parts of their reddish brown tibiae, apical parts of hind femora, almost apical halves of hind tibiae, and all the tarsi very dark to black; silvery vestiture on thorax, pleurae, metasternum and sides of tergite 1 tending to be more in form of scale-like hairs or even scales in part. ♂ ♀ *namaquensis* Hesse (W. Karoo, Namaqualand)
- 6(a) Wings entirely glassy hyaline in ♂ at least; antennal segment 1 entirely dark or black, apical part of 3 more distinctly and more sharply produced outwards; humeral angle and across anterior spiracle, including propleural tubercle, a large rounded spot on each

side of thorax above wings, postalar calli, front coxae and to a certain extent outer face of front tibiae ivory whitish; vestiture on posterior episternal (hypopleural) and epimeral (or metasternal) parts slightly longer, denser, that towards apex of abdomen not conspicuously silvery; black callus-area on terminal plates of last sternite (tergite) of ♂ very narrow, linear. ♂ *munroi* Hesse (1938, p. 1010) (Transvaal)

- (b) Wings even in ♂♂ not entirely glassy hyaline, either tinged smoky brownish or with at least costal and basal parts brownish; antennal segment 1 not entirely dark, either basal part, basal half or entire segment brownish, reddish brown or reddish, and apical part of 3 even if acute not distinctly produced or prolonged; humeral angle, anterior spiracular part, spot or macula above wing-base and postalar calli not ivory whitish, usually reddish or ferruginous red; vestiture on hypopleural and metasternal parts on the whole shorter, less dense and shaggy (if dense and longish other characters do not differ), that towards apex of abdomen usually more conspicuously silvery; callus-area on terminal plates of last sternite (tergite) of ♂♂ distinctly broader. 7

- 7(a) Wings glassy hyaline, but base, costal cell and marginal cell to a variable extent in ♂, and in ♀ also greater part of first basal cell, to a variable extent base of second basal cell and also basal half of first submarginal cell dark brown or reddish brownish; knobs of halteres pale above; frons, entire antennal segment 1 at least above, face, genae and base of tergite 1 in addition to other red on thorax pale reddish or pale reddish brown; propleural tubercle ivory yellowish only in upper part and sclerite above it, black; outer faces of front and middle tibiae and tarsi, though silvery-haired, only slightly yellowish; scutellar callosities very dark, blackish brown or black; eyes above contiguous for only a short distance in both sexes; thorax above distinctly more coarsely rugulose-punctate; vestiture on body, especially on thorax above, distinctly and markedly denser, longer, that on antennal segment 1 above and to a certain extent also on 2 denser, longer, entirely silvery white, especially in ♂.

♂ ♀ *crudelis* Westwd. (1938, p. 1012) (N.W. Cape, Bechuanaland, Transvaal, Natal)

- (b) Wings not glassy hyaline, distinctly tinged more greyish or cinereous, smoky or even dark smoky or reddish brownish, the darker basal and costal parts not contrastingly demarcated from less dark parts; knobs of halteres dark or black to a variable extent; first antennal segments darkened in apical part or half or entirely dark or black, but apical part of frons, face or sides of face, and genae yellow; tergite 1 entirely dark; propleural tubercle and sclerite above it usually entirely ivory yellowish and if darker other characters do not differ; outer faces of front and middle tibiae and tarsi usually much paler or yellowish, contrasting with inner faces; scutellar callosities very pale yellowish, almost white; eyes above in actual contact for a much longer distance; thorax above only very finely rugulose; vestiture on body above distinctly very much sparser, shorter and finer, and that on antennal segment 1 finer, less shaggy, entirely dark or with fewer intermixed pale ones. 8

- 8(a) Wings distinctly less darkly infuscated in both sexes, only tinted greyish, cinereous or faintly smoky or yellowish brownish, the basal and costal parts slightly darker, more so in ♀♀ than in ♂♂; sides of thorax above continuously pale reddish from broad humeral spot; legs on the whole very much paler, pale reddish or yellowish reddish, the femora not or scarcely darkened above, their fine dark scaling present only sparingly; vestiture on thorax above entirely or predominantly whitish. 9

- (b) Wings distinctly more dusky or darkly infuscated smoky brownish, even in ♂♂, but much more so in ♀♀, the basal and costal parts being darker still; sides of thorax above darker red or more ferruginous reddish or the red is interrupted just behind humeral spot; legs darker, darker brownish or reddish brown, the femora also distinctly more darkened above, to a large extent due to denser or more extensive fine black scaling; vestiture on thorax above not entirely silvery or pale, but with at least some fine dark or black hair-like scales or hairs either in streaks or on anterior declivous part or above wing-bases. 10

- 9(a) Pleurae predominantly black, the greater part or at least upper half of hypopleuron (or posterior episternal part), entire metasternal part and metanotal part also black; front coxae dark or black in front or on sides; tergites 2-5 darker, more blackish above and

5 with dorsum and apical half of sides also very dark or black; vestiture on antennal segment 1 sometimes entirely black, even in ♂.

- ♂ ♀ *snowi* Adams (1938, p. 1015) (Rhodesia)
- (b) Pleurae with greater part of pteropleuron, entire hypopleural (or posterior episternal) part and metanotal part as well as middle part of metasternum behind red; front coxae paler, tending to be largely pallid or ivory yellowish in front; tergites 2-5 less dark above, more brownish, and 5 entirely or predominantly pale reddish yellowish or ochreous; vestiture on antennal segment 1 with more intermixed pale or yellowish hairs or even pale-haired in basal half in ♂ at least.
- ♂ *zuluensis* Hesse (1938, p. 1018) (Zululand)
- 10(a) Smaller form, about 14.5 mm.; first posterior cell in wings markedly narrowed apically; frons, face, entire propleural tubercle and sclerite above it, anterior faces of front coxae and outer faces of front and middle tibiae and apical half of halteral knobs ivory whitish; red on thorax above not continuous on sides, the humeral spot being isolated; sternopleural part mainly black and at least lower half of hypopleuron (or posterior episternum) reddish; hairs in groove above wing-bases sparse and pale, and those on anterior declivity in front of humerus and on face also pale; fine hairs on hind coxae and hair-like scaling on femora below pale, sericeous or silvery.
- ♂ *funosus* Hesse (1938, p. 1019) (Portuguese East Africa)
- (b) Much larger form, about 25-25.5 mm.; first posterior cell only slightly narrowed; frons and face reddish or reddish brownish, only a smallish spot on propleural tubercle ivory yellowish or whitish, the front coxae reddish and outer faces of front and middle tibiae more pale yellowish reddish, not ivory whitish; knobs of halteres entirely very dark blackish brown or black above; ferruginous red on sides of thorax continuous and confluent with humeral spot; sternopleural part mainly ferruginous and only extreme sternal part of hypopleural part ferruginous; hairs in grooves above wing-bases dense, conspicuous and black like those on anterior declivous part of humerus and on face; fine hairs on hind coxae and hair-like scaling on entire femora black.
- ♂ ♀ *sheppardi* n. sp. (S. Rhodesia)
- 11(a) Wings dusky, darkly tinged smoky brownish or reddish brownish, darker in basal and costal parts, more so in ♀♀; veins darker, brownish or blackish brown; eyes in actual contact in both sexes for a long distance; antennae darker, segment 1 dark reddish brown to almost black, segment 2 black and usually longer; scutellum entirely or predominantly black, and scutellar callosities yellow; hind legs with the tibiae darkened or blackened apically and hind tarsi entirely very dark or black; callus on front femora larger, nearly half length of femora; knobs of halteres very dark or blackish above; club of abdomen shorter; smaller forms, usually less than 20 mm. 12
- (b) Wings tinged predominantly yellowish, the costal and basal parts broadly yellowish, the posterior clearer part more greyish, being slightly more mauvish at apex; veins mainly yellowish; eyes subcontiguous or very nearly separated in both sexes; antennal segments 1 and 2 very pale yellowish red and 2 much shorter; scutellum predominantly reddish and its callosities dark velvety brown; hind legs mainly yellowish red, even basal half of tarsi reddish, only bases of femora and apical parts of tarsi dark; callus on front femora much shorter, narrower, less than half length of femora; knobs of halteres paler, more yellowish brown above; club of abdomen more elongate; larger form, about 20-22 mm. ♂ ♀ *marshalli* Bezz. (1938, p. 1026) (Rhodesia)
- 12(a) Wings more uniformly dusky or tinged smoky brownish, only a narrow costal part slightly darker in both sexes; apical or third submarginal cell normally broadened apically, vein separating it from second submarginal not markedly curved hindwards; antennal segment 2 much longer, usually more than a third length of segment 3, sometimes at least half in ♂♂; sides of thorax not reddened all round, but humeral angle or sometimes a transverse fascia continuous with it, a continuous fascia from humerus including propleural tubercle and sometimes a transverse stripe in front of wing-bases ivory yellow; greater part of pleurae, excepting sometimes only the reddish sutural part between sterno- and hypopleuron, black; tergite 1 entirely black and rest also more darkened or even black above; femora more darkened or dark-scaled above, and front coxae and outer faces of front and middle tibiae and tarsi ivory yellowish, silver-haired; hind

femora without spines below; thorax and scutellum above and mesopleuron usually with finer sculpture; hairs on face pale and with the two longitudinal bands of darkish hairs on thorax scarcely discernible. 13

- (b) Wings with a more delimited, darker, more dark brownish, infuscation in anterior half up to level of upper vein of discoidal cell, including basal part of second basal cell, more so in ♀; apical or third submarginal cell characteristically narrowed apically, its lower vein characteristically curved hindwards at about middle; antennal segment 2 much shorter, only about a third or less length of 3; sides of thorax and across base, propleural tubercle, pteropleuron, middle parts of pleurae and entire hypopleural part and even upper and lower parts of metasternum reddish; base of tergite 1 also broadly reddish and rest of tergites scarcely or not darkened above; legs on the whole paler reddish, front coxae dark, and outer sides of front and middle tibiae not ivory yellowish, nor strikingly silver-haired; hind femora with some spines below at about middle; thorax, scutellum and mesopleuron more coarsely sculptured; hairs on face black and with more distinct dark ones on thorax above.
- ♂ ♀ *sanguineus* Bezz. (1938, p. 1021) (S.W. Cape)
- 13(a) A lobe-like outer squama (part of alula) absent; knobs of halteres much darker above or even blackish; thorax (excl. scutellum) longer, subequal to width of head, duller above, with very much finer rugulose sculpture; metasternal part normally broader, more coarsely sculptured and grooved, not sloping or markedly shifted forwards, hind coxae not below level of neck; transverse ivory yellowish fascia on humeral part and propleural part on each side extending transversely across front part of thorax for some distance towards middle; a variable oblique transverse ivory yellowish fascia or mark present in front of wing-bases or at least a yellowish spot on false tegulae; middle pleural part between sterno- and hypopleural parts as well as extreme lower part of hypopleuron reddish; silvery vestiture on metasternal part distinctly denser, though shorter, and fine pale hairs across hind margins of tergites 2-5 not in form of conspicuous silvery rings; larger form, about 15.5-18 mm.
- ♂ ♀ *leptogaster* Lw. (1938, p. 1024) (Natal, E. Transvaal, Portuguese E. Africa)
- (b) A distinct delicate, transparent, lobe-like outer squama (part of alula) present; knobs of halteres much paler, more yellowish brownish above; thorax (excl. scutellum) much shorter, distinctly much shorter than width of head, more shiny above, distinctly more coarsely rugulose sculptured; metasternal part relatively much narrower, much finer transversely rugose, distinctly more sloping or more markedly shifted forwards, the hind coxae being at level of neck; transverse ivory yellowish fascia on humeral angle and propleural part not continued dorsally for some distance across anterior part of thorax; no spot on fascia present above wing-bases; pleurae black and middle pleural part velvety black; silvery vestiture on metasternal part, though less dense, distinctly longer, and fine hairs across hind margins of tergites 2-5 in more conspicuous silvery rings; smaller and more slender form, about 11.5 mm. ♂ *gracilis* n. sp. (Portuguese E. Africa)

SUMMARY

Descriptions are given of three new species of *Systropus* (*Systropinae*): *S. bicoloripennis*, *S. sheppardi* and *S. gracilis*. A further description of *S. namaquensis* is given, including the previously undescribed female. A revised and descriptive key to all the known southern African species of *Systropus* is included.

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